

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 266/TT/2015

Coram:

**Shri A. S. Bakshi, Member
Dr. M. K. Iyer, Member**

**Date of Hearing : 29.04.2016
Date of Order : 26.05.2016**

In the matter of:

Determination of transmission tariff for 765 kV D/C Dharamjaygarh-Jabalpur PS T/L and 2*330 MVar Switchable Line Reactors with associated bays at Dharamjaygarh Sub-station and line bays at Dharamjaygarh Sub-station only under "Transmission System for Phase-I Generation projects in Orissa- Part B" for 2014-19 Tariff block period in Western Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Madhya Pradesh Power Management Company Ltd.
Shakti Bhawan, Rampur, Jabalpur-482008
2. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor, Bandra (East), Mumbai-400052
3. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road
Vadodara- 390007



Order in Petition No. 266/TT/2015

4. Electricity Department
Govt. of Goa,
Vidyut Bhawan, Panaji- 403001
 5. Electricity Department
Administration of Daman & Diu,
Daman- 396210
 6. Electricity Department
Administration of Dadra Nagar Haveli,
U.T., Silvassa- 396230
 7. Chhattisgarh State Electricity Board
P.O Sunder Nagar, Dangania, Raipur
Chhattisgarh-492013
 8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road
Indore-452008
-**Respondents**

The following were present:

For Petitioner:	Shri S.S. Raju, PGCIL Shri Pankaj Sharma, PGCIL Shri Rakesh Prasad, PGCIL Shri M.M. Mondal, PGCIL Shri Mohd. Mohsin, PGCIL
-----------------	--

For Respondent:	None
-----------------	------

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for 765 kV D/C Dharamjaygarh-Jabalpur PS T/L and 2*330 MVar Switchable Line Reactors with associated bays at Dharamjaygarh Sub-station and line bays at Dharamjaygarh Sub-station only under "Transmission System for Phase-I Generation Projects in Orissa (Part-B)" for 2014-19 Tariff block period in Western Region (hereinafter referred as



“transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD of the asset to 31.3.2019.

2. The respondents are distribution licensees, electricity departments and centralised power procurement companies who are procuring transmission service from the petitioner, mainly beneficiaries of the Western Region.

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 29.4.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

4. The brief facts of the case are as follows:-

(a) Investment approval was accorded by Board of Directors of Petitioner’s company, vide the Memorandum No. C/CP/Orissa Ph-I IPPs (Part-B) dtd. 15.12.2010 at an estimated cost of ₹274319 lakh, which included IDC of ₹18092 lakh (based on 3rd quarter 2010 price level). Subsequently, Revised Cost Estimate (RCE) was approved by Board of Directors of the petitioner, vide Memorandum No. C/CP/RCE- Orissa Ph-I IPPs (Part-B)



dated 11.3.2016 at an estimated cost of ₹338471 lakh, which included IDC of ₹32182 lakh (based on October 2015 price level).

(b) The scope of work covered under the project is as follows:-

Transmission Lines:

1. Jharsuguda pooling station-Dharamjaygarh (WR) 765 kV D/C line;
2. LILO of Ranchi-Sipat (Bilaspur) pooling station 765 kV S/C line at Dharamjaygarh/ near Korba (WR);
3. Dharamjaygarh-Jabalpur pooling station 765 kV D/C line;
4. Jabalpur pooling station-Jabalpur 400 kV D/C (high capacity) line .

Sub-station:

1. Establishment of 765 kV switching station at Dharamjaygarh/near Korba;
2. Establishment of 2x1500 MVA, 765/400 kV pooling station at Jabalpur.

(c) The transmission asset was scheduled to be commissioned within 36 months from the date of investment approval i.e. 15.12.2010. Therefore, the scheduled date of commissioning (SCOD) of the transmission system works out to 15.12.2013 i.e. by 1.1.2014 against which the asset was commissioned on 17.10.2015. Hence, there is time over-run of 21 months and 17 days in case of the asset covered in this petition.

(d) The petitioner, vide its affidavit dated 30.3.2016, has submitted the approved Revised Cost Estimate (RCE) for the project.

(e) The petitioner in original petition had submitted the tariff forms for the said asset on the basis of unaudited figures based on management certificate. Accordingly, the petitioner was directed to submit Auditor's Certificate and revised tariff forms for the Asset. Further, the petitioner was directed to



submit the RLDC certificates in support of trial operation or commercial operation date for the assets. In response, the petitioner has submitted the revised tariff forms along with Auditor's Certificates. The petitioner has also submitted the RLDC certificates for the asset covered in this petition.

5. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

6. The petitioner has claimed the transmission charges as under:-

(₹ in lakh)

Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Depreciation	4013.85	9121.26	9402.77	9468.06
Interest on Loan	4125.76	9048.04	8709.71	7994.77
Return on equity	4503.07	10235.38	10555.47	10631.21
Interest on Working Capital	311.59	700.33	707.94	696.33
O & M Expenses	372.49	841.99	870.10	899.04
Total	13326.76	29947.00	30245.99	29689.41

7. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)

Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Maintenance Spares	122.26	126.30	130.52	134.86
O & M Expenses	67.92	70.17	72.51	74.92
Receivables	4860.32	4991.17	5041.00	4948.24
Total	5050.50	5187.64	5244.03	5158.02
Interest on working capital	681.82	700.33	707.94	696.33
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%
Interest on working Capital	311.59	700.33	707.94	696.33



Date of Commercial Operation (“COD”)

8. The petitioner has claimed the date of the commercial operation of the subject assets as 17.10.2015. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

“4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx]

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations:

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

9. The petitioner has submitted RLDC certificate issued by WRLDC, POSOCO for subject Asset in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation.



10. Accordingly, the commercial operation date of the transmission asset has been considered as 17.10.2015 and the tariff has been worked out from COD to 31.3.2019.

Capital Cost

11. The details of apportioned approved cost, capital cost as on date of commercial operation and estimated additional capital expenditure projected to be incurred for the instant asset as submitted by the petitioner are as under:-

Asset	Approved apportioned cost as per FR	Revised apportioned cost as per RCE	Capital cost as on COD	Additional capitalization			Total estimated completion cost
				2015-16	2016-17	2017-18	
Asset	128286.84	181424.33	164364.80	2059.92	8088.18	2562.41	179839.42

12. Regulations 9 and 10 of the 2014 Tariff Regulations specify as follows:-

“9. Capital Cost: (1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

(2) The Capital Cost of a new project shall include the following:

- the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- Increase in cost in contract packages as approved by the Commission;
- Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and



- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

...

(6) The following shall be excluded or removed from the capital cost of the existing and new project:

- a) The assets forming part of the project, but not in use;
- b) Decapitalisation of Asset;
- c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two stage transparent process of bidding; and
- d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

10. Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

13. The petitioner has submitted Auditor’s Certificates for the instant asset in support of capital cost incurred up to COD.

Cost Over-run

14. The petitioner has submitted that the estimated completion cost of the instant asset is ₹173784.45 lakh against the initial approved apportioned cost of ₹128286.84 lakh and it is a significant cost over-run. The petitioner has submitted that the cost variation is due to increase in compensation amount and increase in



the line length. The petitioner has submitted that increase by approximately ₹4700 lakh is due to compensation paid and increase in tower steel and conductor by approximately ₹26100 lakh. The route length increased substantially to avoid involvement of Buffer Zone of Amarkantak/Achanakmar Biosphere Reserve Boundary, to minimize involvement of forest area by avoiding Lapha Protected Forest and to avoid Gevra Coal Mining Area. The petitioner has also submitted that there is increase in number of angle towers and body extensions substantially and tower steel and conductor. The quantity increased due to increase in line length from 384 km as envisaged in FR to 425 km as per actual site conditions thereby resulting in increase of total weight from 56614 MT to 75338 MT. The petitioner has also submitted that 765 kV D/C was in the introductory stage and the 765 kV D/C towers were under development stage and tower design of the 765 kV D/C were not available and a tentative approximate weight was considered during FR preparation. However, there is variation in tower weight considered in FR with respect to actual weight after detailed design/tower testing especially in angle towers/extension.

14. The petitioner, vide affidavit dated 30.3.2016, has submitted the RCE for the project. The details are as given below:-

(₹ in lakh)

Asset	COD	Apportioned cost as per FR as submitted in original petition	Revised apportioned cost as per RCE	Estimated completion cost an on 31.3.2019
Asset	17.10.2015	128286.84	181424.33	179839.42



15. The estimated completion cost of the instant assets is within the revised approved apportioned cost and hence it is approved.

Time Over-run

16. As per the investment approval dated 15.12.2010, the project was scheduled to be commissioned within 36 months from the date of investment approval. Hence, the asset was to be commissioned upto 1.1.2014. The asset was put under commercial operation with effect from 17.10.2015. There is time over-run of 21 months and 17 days.

17. The petitioner has submitted the following reasons for time over-run:-

a. Re-routing to Avoid Biosphere reserved and protected forest area:-

The petitioner after investment approval in December, 2010 awarded contract in March, 2011. The detailed survey and finalization of route alignment was part of main contract. However, during detailed survey, it was found that a certain portion of the said transmission line was passing through area in which following entities were present.

- 1) Buffer Zone of Amarkantak/Achanakmar Biosphere Reserve.
- 2) Lapha Protected forest.
- 3) Gerva Coal Mining

b. Achanakmar-Amarkantak, designated as Biosphere Reserve by GOI (vide notification no. 9/16/99-CS/BR dated 30.3.2005) is an interstate Biosphere Reserve having an area of 3835.51 sq. km, partly falling in



Madhya Pradesh and partly in Chhattisgarh. The buffer zone of Achanakmar-Amarkantak Biosphere-Reserve (Protected area) could have warranted the prior approval of National Board of Wildlife (NBWL) and Hon'ble Supreme Court (SC) for carrying out activities in such protected area. In view of cumbersome and time consuming process of obtaining approval from National Board of Wildlife (NBWL) and Hon'ble Supreme Court, it was decided to realign the route by avoiding the said Biosphere Reserve completely. The final route alignment and optimization of route by avoiding the Biosphere Reserve as well as Gevra Coal bearing area was finalized in Nov, 2011.

c. Forest Approval from Ministry of Environment and Forest:-

The proposal for forest clearance under Forest (Conservation) Act, 1980 involving the forest stretch of 45 km having area of 297.57 Ha. In Chhattisgarh State was submitted in January, 2012 to Nodal officer. The above forest proposal falls under the jurisdiction of 36 villages as per the requirement of Ministry of Environment and Forest (MoEF) mandated by its order dated 3.8.2009. Written consent /NoC of each gram Sabah was required to submit along with the concerned DC/DM's certificate as part of Proposal. The process of obtaining such consent and NOC has taken more than one year and with active support of the Administration the NOC from all the 36 Gram Sabah's were obtained in February 2013.



18. Once the FRA requirement was fulfilled, the proposal involving two forest divisions were further formulated by the Forest Department and processed for approval/recommendation of State Govt. In the mean time, MoEF issued another advisory vide its letter dated 8.4.2013 necessitating counting of trees to be felled below each conductor for entire forest area. This new requirement necessitated recounting of trees in entire forest area and subsequent revision in proposal which has taken additional 90 days to complete it. Finally, the forest proposal with due recommendation of state government was forwarded to MoEF on 20.2.2014. It is pertinent to mention that the processing of forest proposal was completed by the State Government in 753 days against the stipulated time period of 210 days as per MoEF rules notified vide gazette dated 3.2.2004, resulting delay of 543 days or more than 18 months.

19. The petitioner has further submitted that MoEF after receiving the proposal promptly asked Chief Conservator of Forest (CCF), RMoEF, Bhopal vide its letter dated 27.2.2014 to carry out site inspection and submit its report that area involved is more than 100 Ha. However, the inspection and its report submission by Chief Conservator of Forest (CCF), RMoEF Bhopal took more than 3 months time as the inspection report was forwarded to MoEF on 3.6.2014. After receiving the inspection report of RMoEF included the proposal in agenda of the next Forest Advisory Committee meeting scheduled on 30.6.2014. However, due to certain reason the said meeting was postponed. The forest proposal was subsequently discussed in the next FAC meeting held on



18.7.2014 and was recommended subject to submission of additional information. The petitioner submitted the desired information promptly on 25.7.2014 with a request to process Stage-I approval. However, MoEF vide its letter dated 20.8.2014 demanded the same information from State Government. The State Government forwarded the desired information vide its letter dated 24.9.2014 to MoEF. Subsequently, the Stage-I approval was processed and finally issued on 30.10.2014.

20. The petitioner has submitted that Stage-I clearance by the MoEF after the submission of proposal by the State Government has taken 250 days against the maximum stipulated 90 days which has resulted in further delay of 160 days i.e. more than 5 months. The petitioner has submitted that as per the rules of the Forest (Conservation) Act, 1980 no construction activity can take place in the Forest Area without obtaining the final or stage II clearance from the MoEF. However, on its representation through MoP the MoEF has granted certain relaxation to linear project which allows user agency to start felling of trees in forest area once the compliance of monetary conditions are met with and based on that State Government can issue working permission in said forest area vide its guidelines dated 8.8.2014. The petitioner in order to expedite construction of transmission line in forest area has processed for such working clearance pending final clearance and obtained the same on 2.2.2015. The final clearance was subsequently obtained on 26.2.2015.



21. The petitioner has submitted that the proposal forest clearance was made in January 2012 but could only get permission to work in forest area on 2.2.2015. It has at has taken total 1098 days against the stipulated 300 days which amounts to delay of 798 days or 26.6 months in Chhattisgarh portion. Similarly, the forest clearance for MP portion involving 30.699 Ha. was also delayed by around 249 days or more than 8 months in obtaining stage-I clearance and further 307 days were taken by State Forest Department and MoEF for issuance of Stage-II clearance. Hence, no construction activity was allowed in the 4.5 km of forest stretch in Madhya Pradesh portion for a period of 856 days (say 28 months).

Severe RoW issues Kabir Panthi samaj:

22. Near Kudurmali village two tower locations i.e. 13/0 and 14A/0 were in the land owned by Kabir Trust. The foundation work of 14A/0 was completed in March 2014. Foundation work at 13/0 started on 24.1.2014 and was stopped by a group of people of Kabir Trust on 28.10.2014. The petitioner's company officials tried to resolve this issue locally by discussing with Kabir Trust but the matter could not be resolved. The issue was reported to SDM, Korba vide letter dated 30.10.2014 with a request to remove the obstruction under provisions of Indian Electricity Act and Indian Telegraph Act. Head of Kabir Trust vide letter dated 23.2.2015, requested Chief Minister, Chhattisgarh, to stop the work of the petitioner in their land and change the route. In turn, State administrative has referred the issue to the petitioner for changing the route of line. Further, the



petitioner has taken up the issue with State administration vide letter dated 22.4.2015 explaining the inability of changing the route and requesting to resolve the issue so that project can be completed without delay. After series of discussions, State government and head of Kabir Pant a route was agreed upon after abandoning the locations that were already cast. Accordingly, an alternate route was worked out by the petitioner. This resulted in delay from October 2014 to September 2015 i.e. around 11 months is due to Right of Way issues which were beyond the control of the petitioner.

Court Cases

23. One Court case was filed by Smt. Sita Devi Agarwal against the petitioner for removal of Tower AP13/0 from their land in the Hon'ble High Court of Chhattisgarh hampering construction activities at that location from 8.8.2015 to 10.9.2015 i.e. about 1 month. Apart from the above, there were many instances of RoW problems at various locations e.g. 6/0, 8/3, 10/0, 16/0, 23/5, 32/0, 33/2, 100A2/4 etc which led to the referral of the matters to District Collector / SDM / Tehsildar / Police which also caused delay in the commissioning of the asset.

Power Line / Railway Crossings:

24. The petitioner has submitted that it encountered a number of Power Line/Railway crossings to complete the construction of the transmission line.

25. We have considered the submissions of the petitioner. The time over-run is mainly on account of re-routing, delay in forest approval, RoW issues and



Court cases. The time consumed on account of re-routing was 8 months from the date of placement of contract in March, 2011. The total delay in getting the final forest clearance from the date of submission of proposal was 26 months. Time over-run of 5 months (October, 2014 to February, 2015) on account of RoW issue gets subsumed in process of forest approval. In addition to this, there is time over-run of 6 months from March, 2015 to September, 2015 on account of RoW problems. Further, there was a time over-run of one month (8.8.2015 to 20.9.2015) due to Court case. We have gone through the submissions of the petitioner and are of the view that the time over-run 21 months and 17 days in commissioning of the instant asset is beyond the control of the petitioner and it cannot be attributed to the petitioner. Accordingly, the time over-run in case of the instant asset is condoned and accordingly IDC and IEDC for the said period are allowed to be capitalised.

IDC and IEDC

26. The petitioner was directed to provide the computation of IDC and IEDC on cash basis (i) from date of infusion of debt fund to scheduled COD and (ii) from scheduled COD to actual COD. In response, the petitioner vide its affidavit dated 13.5.2016 submitted the breakup of IDC and IEDC on cash basis as follows:-

Particulars	(₹ in lakh)	
	IDC	IEDC
IDC and IEDC as per Certificate	18432.56	2171.09
IDC and IEDC discharged upto COD	15668.45	2171.09
IDC discharged in 2015-16	2585.41	0.00



IDC to be discharged in 2016-17	178.70	0.00
---------------------------------	--------	------

Further, the petitioner has submitted that entire IEDC amount mentioned in the Auditor's Certificate is on cash basis and is paid upto COD. As discussed, earlier, we have allowed the time over-run for reasons stated above and therefore have considered the IDC and IEDC as submitted by the petitioner.

Initial Spares

27. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

“(d) Transmission System	
Transmission line:	1.00%
Transmission sub-station (Green Field):	4.00%
Transmission sub-station (Brown Field):	6.00%”

28. The petitioner has claimed initial spares of ₹28.28 lakh pertaining to sub-station and ₹1403.33 lakh pertaining to transmission line for the instant asset. The initial spares for sub-station (green-field), and transmission line claimed by the petitioner are within the specified ceiling limits as given below:-

(₹ in lakh)

Description	Cut-off date	Plant & Machinery Cost as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 13 of the 2014 Tariff Regulation	Initial spares worked out as per Regulations	Excess initial spares claimed
		(a)	(b)	(c)	(d)= ((a-b)*c)/(100-c)%	(e)=(d)-(b)
Sub-station	31.3.2018	6838.01	28.28	4.00%	283.74	0.00



Description	Cut-off date	Plant & Machinery Cost as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 13 of the 2014 Tariff Regulation	Initial spares worked out as per Regulations	Excess initial spares claimed
		(a)	(b)	(c)	(d)= ((a-b)*c)/(100-c)%	(e)=(d)-(b)
Transmission Line	31.3.2018	150950.60	1403.33	1.00%	1510.58	0.00

29. The capital cost for the asset has been worked out by adjusting IDC and IEDC as given below:-

(₹ in lakh)	
Particulars	Asset
Capital Cost as on COD as per Auditor's Certificate	167128.91
Accrued IDC and IEDC discharged in 2015-16	2585.41
Accrued IDC and IEDC discharged in 2016-17	178.70
Capital Cost as on COD (after deducting accrued IDC discharged in 2015-17)	164364.80
Excess initial Spares	0.00
Capital Cost as on COD (after deducting accrued IDC/IEDC and excess initial spares)	164364.80

30. The capital cost as on COD of ₹164364.80 lakh, as worked out above is within the RCE apportioned cost of ₹181424.33 lakh, for the instant asset. Accordingly, the capital cost as worked out on COD is allowed and considered for the purpose of tariff computation for 2014-19 tariff period.

Additional Capital Expenditure

31. The petitioner has claimed additional capital expenditure for the instant asset during 2014-19 tariff period towards balance and retention payments under Clause 1 of Regulation 14 of the 2014 Tariff Regulations.



32. Clause 1, of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

.....

- (i) Undischarged liabilities recognized to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation: 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
- (v) Change in law or compliance of any existing law;

33. It is observed that total estimated completion cost including additional capitalization for 2015-16, 2016-17 and 2017-18 is within the RCE apportioned cost for the instant asset. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” as follows:-

“Cut - off Date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation.”

34. The cut-off date for the instant asset works out to be 31.3.2018. The additional capitalization claimed by the petitioner is within the cut-off date. The total capital cost including additional capitalisation is within the approved apportioned cost and hence the additional capitalization for 2015-16, 2016-17 and 2017-18 is allowed under Regulation 14(1) of 2014 Tariff Regulations on provisional basis, which shall be trued up at the time of truing up of tariff for 2014-19 period.



35. The details of additional capitalization allowed is as follows:-

(₹ in lakh)

Name of the element	Particulars	Approved Apportioned Cost	Expenditure upto COD*	Additional Capital Expenditure [#]				Total estimated completion cost
				2015-16	2016-17	2017-18	Total	
Asset	Petitioner's Claim	181424.33	164364.80 (=167128.91-2764.11)	4645.33 (=2059.92+2585.41)	8266.88 (=8088.18+178.70)	2562.41	15474.62	179839.42
	Approved in this order	181424.33	164364.80	4645.33	8266.88	2562.41	15474.62	179839.42

* Capital Cost after deducting accrued IDC discharged

Additional capital expenditure after addition of IDC discharged in respective years

Debt: Equity Ratio

36. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

37. The petitioner has considered debt:equity ratio as 70:30 for the instant asset covered in this petition for capital cost as on COD. Further, the petitioner has considered debt:equity ratio as 70:30 for the instant asset for additional capitalization during the tariff period 2014-19. We have considered the petitioner's submission. The details of the debt:equity as on COD and for the



additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	115055.36	70.00	125887.59	70.00
Equity	49309.44	30.00	53951.83	30.00
Total	164364.80	100.00	179839.42	100.00

Interest on Loan ("IOL")

38. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

39. The weighted average rate of IOL has been considered on the basis of actual loans. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period be adjusted at the time of truing up.



40. We have considered the petitioner's submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)				
Details of Loan	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	115055.36	118307.09	124093.91	125887.59
Cumulative Repayment upto DOCO/previous year	0.00	4007.63	13128.90	22531.67
Net Loan-Opening	115055.36	114299.46	110965.01	103355.93
Additions during the year	3251.73	5786.82	1793.69	0.00
Repayment during the year	4007.63	9121.27	9402.77	9468.05
Net Loan-Closing	114299.46	110965.01	103355.93	93887.88
Average Loan	114677.41	112632.23	107160.47	98621.90
Rate of Interest (%)	7.873%	8.034%	8.128%	8.107%
Interest	4119.46	9048.55	8710.19	7995.27

Return on Equity("ROE")

41. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system...

Provided that:

- i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:



ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid.”

“25. Tax on Return on Equity:

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

42. The petitioner has computed ROE at the rate of 19.705% for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

43. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including



interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

44. We have computed ROE at the rate of 19.610% for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE allowed is given below:-

(₹ in lakh)				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Opening Equity	49309.44	50703.04	53183.10	53951.83
Addition due to Additional Capitalisation	1393.60	2480.06	768.72	0.00
Closing Equity	50703.04	53183.10	53951.83	53951.83
Average Equity	50006.24	51943.07	53567.46	53951.83
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%
MAT rate for the year (%)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)(%)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	4474.42	10186.04	10504.58	10579.95



45. The variation in Return on Equity claimed by the petitioner is on account of change in MAT rate and change in Rate of Return on Equity (Pre-tax) considered by the petitioner. The petitioner has considered MAT rate of 21.24% and rate of Return on Equity (Pre-tax) as 19.705%.

Depreciation

46. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

(c) AC and DC Sub-station: 25 years

(d) Gas Insulated Sub-station: 25 years

(e) Transmission line (including HVAC & HVDC): 35 years”

47. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis”

“(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”



48. The petitioner in its petition has computed depreciation considering capital cost as on COD of ₹164364.80 lakh for the instant asset.

49. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, weighted average value of asset as on COD has been considered to work out the weighted average life of the transmission system as 35 years for the Asset.

50. We have computed depreciation considering approved capital cost as on COD and allowed additional capitalisation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Opening Gross Block	164364.80	169010.13	177277.01	179839.42
Additional Capitalization	4645.33	8266.88	2562.41	0.00
Closing Gross block	169010.13	177277.01	179839.42	179839.42
Average Gross block	166687.47	173143.57	178558.22	179839.42
Rate of Depreciation (%)	5.269	5.268	5.266	5.265
Depreciable Value	150018.72	155829.21	160702.39	161855.48
Elapsed Life of the asset at beginning of the year	0.00	1.00	2.00	3.00
Weighted Balance Useful life of the asset	35.00	34.00	33.00	32.00
Remaining Depreciable Value	150018.72	151821.58	147573.49	139323.81
Depreciation	4007.63	9121.27	9402.77	9468.05



Operation & Maintenance Expenses (“O&M Expenses”)

51. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. We have considered the petitioner’s submission. The petitioner’s entitlement of O&M Expenses has been worked out as given hereunder:-

		(₹ in lakh)			
Particulars		2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	4	4	4	4
Norms as per Regulation	765 kV bay ((₹lakh/bay))	87.22	90.12	93.11	96.2
Double Circuit (Bundled conductor with four or more sub-conductors) of line length of 424.99 kms		1.097	1.133	1.171	1.21
Total		371.91	841.99	870.10	899.04

52. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.



53. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

54. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Asset	371.91	841.99	870.10	899.04

Interest on Working Capital ("IWC")

55. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance Spares

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant



asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the Bank Rate' means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

56. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Maintenance Spares	55.79	126.30	130.52	134.86



Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
O & M expenses	30.99	70.17	72.51	74.92
Receivables	2214.01	4982.84	5032.40	4939.58
Total	2300.79	5179.31	5235.43	5149.35
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	310.61	699.21	706.78	695.16

Annual Transmission Charges

57. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross Block				
Opening Gross Block	164364.80	169010.13	177277.01	179839.42
Additional Capitalisation	4645.33	8266.88	2562.41	0.00
Closing Gross Block	169010.13	177277.01	179839.42	179839.42
Average Gross Block	166687.47	173143.57	178558.22	179839.42
Depreciation				
Rate of Depreciation	5.269	5.268	5.266	5.265
Depreciable Value	150018.72	155829.21	160702.39	161855.48
Elapsed Life of the assets at beginning of the year	0.00	1.00	2.00	3.00
Weighted Balance Useful life of the assets	35.00	34.00	33.00	32.00
Remaining Depreciable Value	150018.72	151821.58	147573.49	139323.81
Depreciation	4007.63	9121.27	9402.77	9468.05
Interest on Loan				
Gross Normative Loan	115055.36	118307.09	124093.91	125887.59



Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Cumulative Repayment upto Previous Year	0.00	4007.63	13128.90	22531.67
Net Loan-Opening	115055.36	114299.46	110965.01	103355.93
Additions	3251.73	5786.82	1793.69	0.00
Repayment during the year	4007.63	9121.27	9402.77	9468.05
Net Loan-Closing	114299.46	110965.01	103355.93	93887.88
Average Loan	114677.41	112632.23	107160.47	98621.90
Weighted Average Rate of Interest on Loan (%)	7.873%	8.034%	8.128%	8.107%
Interest	4119.46	9048.55	8710.19	7995.27
Return on Equity				
Opening Equity	49309.44	50703.04	53183.10	53951.83
Additions	1393.60	2480.06	768.72	0.00
Closing Equity	50703.04	53183.10	53951.83	53951.83
Average Equity	50006.24	51943.07	53567.46	53951.83
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	4474.42	10186.04	10504.58	10579.95
Interest on Working Capital				
Maintenance Spares	55.79	126.30	130.52	134.86
O & M expenses	30.99	70.17	72.51	74.92
Receivables	2214.01	4982.84	5032.40	4939.58
Total	2300.79	5179.31	5235.43	5149.35
Rate of Interest(%)	13.50	13.50	13.50	13.50
Interest	310.61	699.21	706.78	695.16
Annual Transmission Charges				
Depreciation	4007.63	9121.27	9402.77	9468.05
Interest on Loan	4119.46	9048.55	8710.19	7995.27
Return on Equity	4474.42	10186.04	10504.58	10579.95
Interest on Working Capital	310.61	699.21	706.78	695.16



Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	371.91	841.99	870.10	899.04
Total	13284.03	29897.06	30194.42	29637.48

Filing Fee and the Publication Expenses

58. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

59. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

60. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is



withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.

Sharing of Transmission Charges

61. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

62. This order disposes of Petition No. 266/TT/2015.

Sd/-
(Dr. M. K. Iyer)
Member

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO****(₹ in lakh)**

Particulars	2014-19			
	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND-XXXIV-Loan 1-	8.84	3599.48	0.00	3599.48
BOND XXXVII-Loan 2-	9.25	2093.00	0.00	2093.00
BOND XXXVIII-Loan 3-	9.25	494.00	0.00	494.00
BOND XXXIX-Loan 23-	9.40	3305.50	0.00	3305.50
SBI (21.3.2012)-Loan 5-	9.55	8403.00	0.00	8403.00
BOND XL-Loan 6-	9.30	13869.29	0.00	13869.29
IFC (IFC - A LOAN) (31419-00)-Loan 7-65.48	3.44	1226.11	0.00	1226.11
IFC (IFC - B LOAN) (31419-01)-Loan 8-65.48	2.59	9128.50	0.00	9128.50
IFC (ICFF LOAN) (31419-02)-Loan 9-65.48	3.44	3769.23	0.00	3769.23
FC - BOND (17.01.2013)-Loan 10-65.48	4.10	16392.92	0.00	16392.92
BOND - XLIII-Loan 11-	7.93	486.14	0.00	486.14
BOND - XLIV-Loan 12-	8.70	350.92	0.00	350.92
BOND - XLV-Loan 13-	9.65	9767.40	0.00	9767.40
SBI (2014-15)-ADDCAP FOR 2015-2016 Add Cap 2-	9.55	0.00	1186.00	1186.00
SBI (2014-15)-Loan 14-	9.55	6837.32	0.00	6837.32
SBI (2014-15)-Loan 21-	9.55	1842.65	0.00	1842.65
SBI (2014-15)-Loan 22-	9.55	2000.00	0.00	2000.00
BOND XLVI -Loan 15-	9.30	11214.30	0.00	11214.30
Bond XLVII-Loan 16-	8.93	10277.00	0.00	10277.00
Bond XLVIII-Loan 17-	8.20	1112.42	0.00	1112.42
BOND XLIX-Loan 18-	8.15	1200.00	0.00	1200.00
BOND L-Loan 20-	8.40	2706.00	0.00	2706.00
BOND LI-ADDCAP FOR 2015-2016 Add Cap 1-	8.40	0.00	255.94	255.94
BOND LI-ADDCAP FOR 2015-2016 Add Cap accrual IDC-	8.40	0.00	1809.79	1809.79
BOND LI-Loan 19-	8.40	4980.18	0.00	4980.18



	2014-19			
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
Total		115055.36	3251.73	118307.09

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Gross Opening Loan	115055.36	118307.09	118307.09	118307.09
Cumulative Repayments of Loans upto Previous Year	2582.09	5338.60	12296.90	16044.95
Net Loans Opening	112473.27	112968.49	106010.19	102262.14
Add: Drawl(s) during the year	3251.73	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	2756.51	6958.30	3748.05	4721.44
Net Closing Loan	112968.49	106010.19	102262.14	97540.70
Average Net Loan	112720.88	109489.34	104136.17	99901.42
Rate of Interest on Loan (%)	7.873%	8.034%	8.128%	8.107%
Interest on Loan	8874.24	8796.06	8464.37	8099.00

